RECHERCHE ET EXPERTISE
SUR L'ECONOMIE MONDIALE

CEPII

« Industrial policy: Managing Trade-offs to promote Growth and Resilience »- Chapter 3 - WEO

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A very rich chapter

- **Main Takeaways**
  - Examines **when industrial policies are most likely to succeed**.
  - Shows that **industrial policy can promote reshoring** and help firms **catch up with the global technology frontier**, especially in sectors with **increasing returns to scale**.
  - Outcomes are **highly sensitive to initial conditions**: size of the technology gap, firms' learning-by-doing capacity, market size
  - **Imperfect targeting** may lower aggregate productivity if factors shift from more to less efficient sectors.
  - Highlights key **trade-offs**: fiscal costs, higher consumer prices, and possible **resource misallocation**.

- **Methodologies**
  - Mix of **modeling, econometrics, and case studies**

- **My Comments**
  - A few methodological remarks
  - Then, three main comments:
    - Macro Determinants of Industrial Policy Success
    - China's innovation paradox
    - What response for Europe?

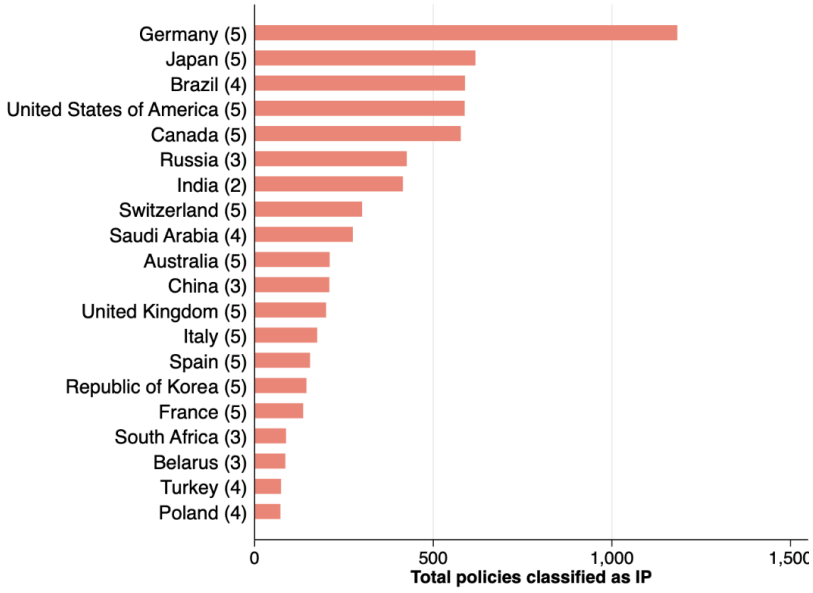
Methodological comments / Econometric Analysis

- **Objective**
  - Estimates the link between industrial policies (IPs) and economic performance, both in the targeted sectors and through cross-sectoral spillovers.

- **Empirical Strategy**
  - Based on a local projection framework following *Baquie et al. (2025)*.
  - Uses IP data from *Juhász et al. (2023)*, covering a broad set of countries and industries (2009–2022).
  - The database builds on the Global Trade Alert (GTA).

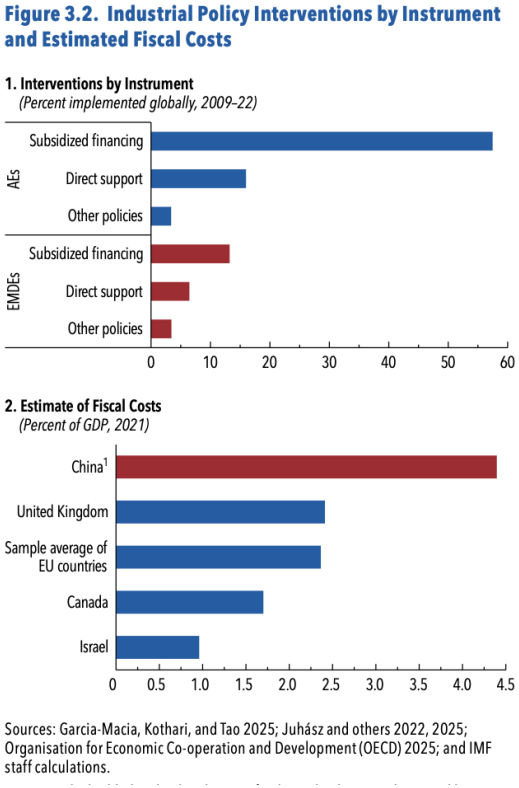
- **Limitations :**
  - Records only a subset of policy announcements (those affecting commercial interests).
  - Likely underrepresents key countries such as China, because of the way these countries implement and record IPs.
  - May underestimate the actual scale of industrial policies: Relies mainly on policy counts, not on the size or intensity of interventions.

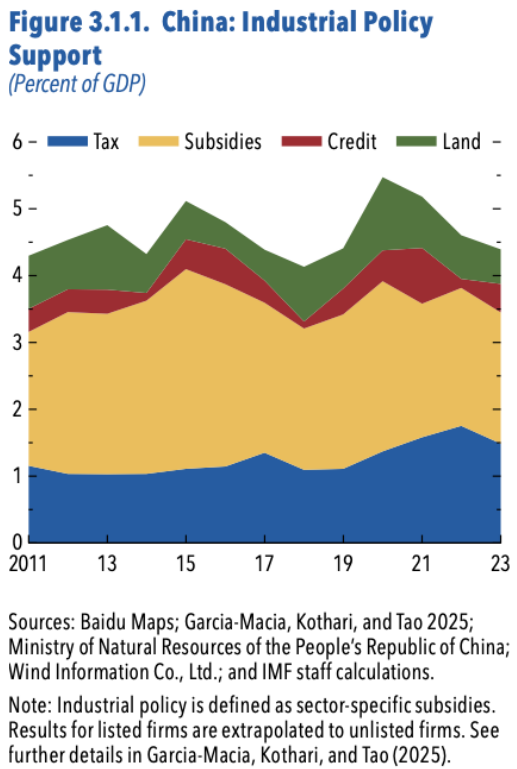
Questions about Juhász et al. (2023) database



(a) Number of IP policies

Juhász and others (2023) :
« Top countries that use industrial policy. Germany tops the list. It has about double the number of industrial policies as the countries that come next: Japan, Brazil and Canada ».





Chapter 3, WEO, 2025

Challenges in Empirical Studies on Industrial Policy

- Empirical analyses of industrial policy (IP) face long-standing methodological difficulties.

- **Two main biases**
  - **Endogeneity bias.** Industrial policies are often implemented in declining sectors, which can mechanically create a negative correlation between public intervention and sectoral performance.
  - **Measurement bias**
    - Sectoral policies (especially subsidies) are poorly identified and quantified.
    - Their magnitude is often unknown due to limited transparency. Example: Subsidies from China to its electric-vehicle industry (*Chimits, 2023*).

- Recent literature seeks to address these biases by examining specific historical cases — drawing on both the experiences of Western economies and the lessons from East Asian industrialization (see Lane, 2025).

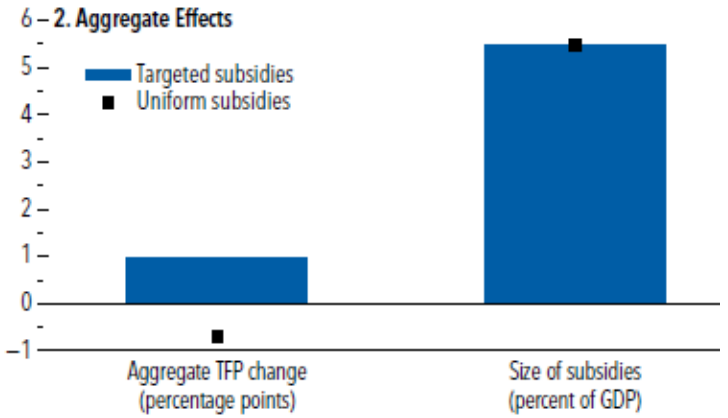
Measuring aggregate effects with a quantitative trade model

- **Quantitative Trade Model (QTM)**
  Static trade model with sectoral economies of scale, that allows for the study of IPs and spillovers across sectors (extension of Caliendo & Parro, 2015).

But:

- **Fixed technologies** may not adequately capture macroeconomic dynamics.
  → No endogenous technological progress or innovation response ⇒ not the best framework for assessing long-term effects of IPs (on innovation, technological progress, etc.).

- **Question on the *scenarios***:
  - *Untargeted (uniform) subsidies* = "saupoudrage" approach.
  - Same aggregate fiscal envelope as in the perfectly targeted case → Raises questions about realism and policy relevance.



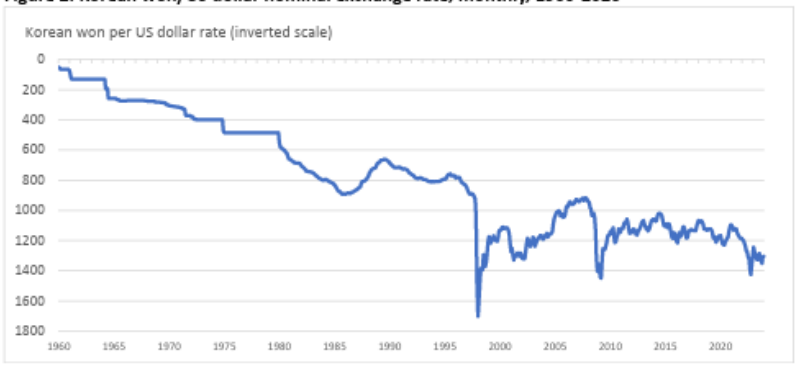
Historical Case Studies / Macro Determinants

- This chapter sheds light on two historical cases: **Brazil and South Korea**
  - Among the conditions for successful industrial policy, **macro factors are often overlooked**.

- **Brazil**
  - Import substitution industrialization strategies in Latin America mostly failed.
  - Main reasons:
    - The *permanent nature* of these policies and the inability to break dependence on natural resources — often reinforced by favoring gas and oil industries.
    - Dutch disease and exchange-rate overvaluation linked to commodity booms (*Ocampo, 2017; Oreiro et al., 2020*).

- **South Korea**
  - Undervaluation of the won was an essential macro complement that made other policy tools effective *(Rodrik, 2008; Irwin & Obstfeld, 2024; Grekou et al., 2024).*

Figure 2: Korean won/US dollar nominal exchange rate, monthly, 1960-2023

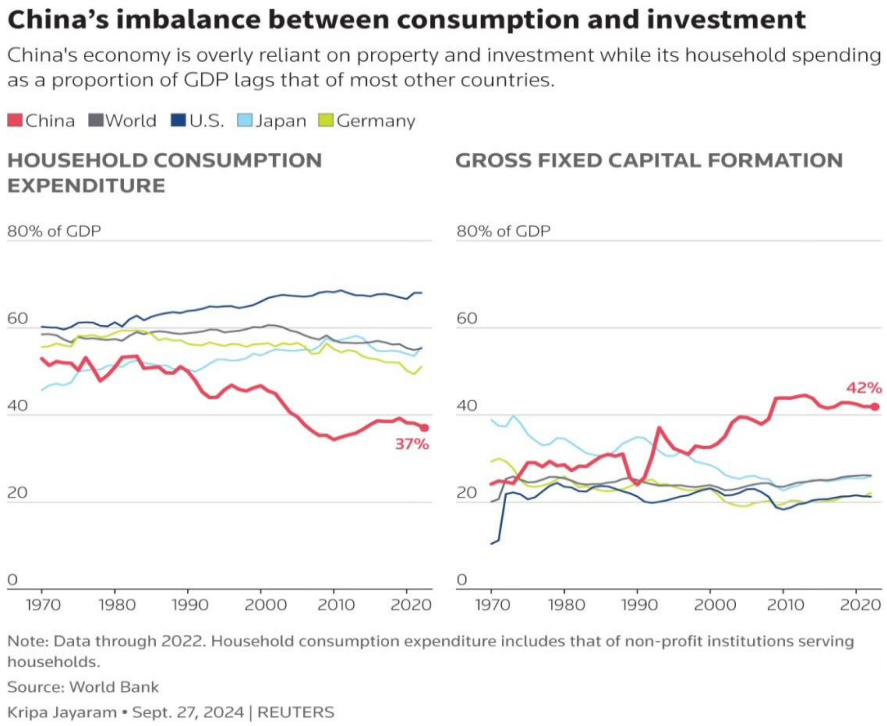


Source: Organization for Economic Cooperation and Development via FRED.

Macroeconomic Determinants of Industrial Policy Success (cont.)

- **Demand-Compression Policies.**
  - Countries such as **China and Germany** have adopted policies that **structurally favor producers over consumers**, compressing domestic demand and supporting export-oriented manufacturing.
  - These asymmetries exacerbate deindustrialization in deficit countries (US,FR).

- **Reindustrialization vs. Demand Stimulus**
  - Difficult to reconcile industrial policies aimed at reindustrialization with macroeconomic policies that structurally favor domestic demand — the two objectives are partly contradictory (Grekou, Grjebine, 2022).



China's imbalance between consumption and investment

Pettis (2025) : "*If a group of countries implement policies that cause their manufacturing to grow faster than their GDP, and their consumption to grow more slowly, as long as they are able to control their external accounts, and as long as at least some of their trade partners don't, the rest of the world must "choose" to have manufacturing grow more slowly than GDP and consumption grow more quickly*"

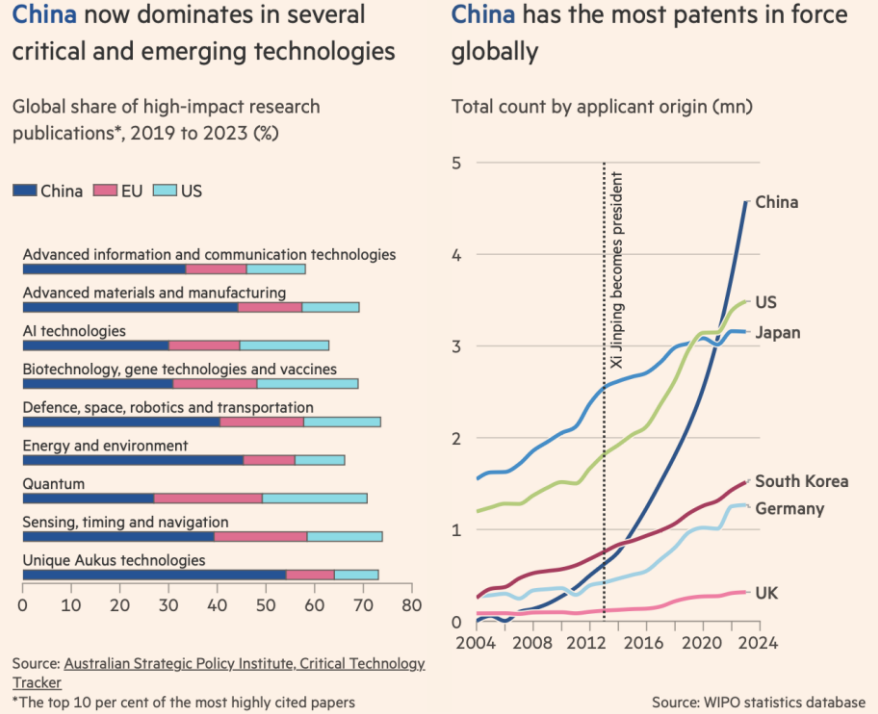
See also Rodrik (2025).

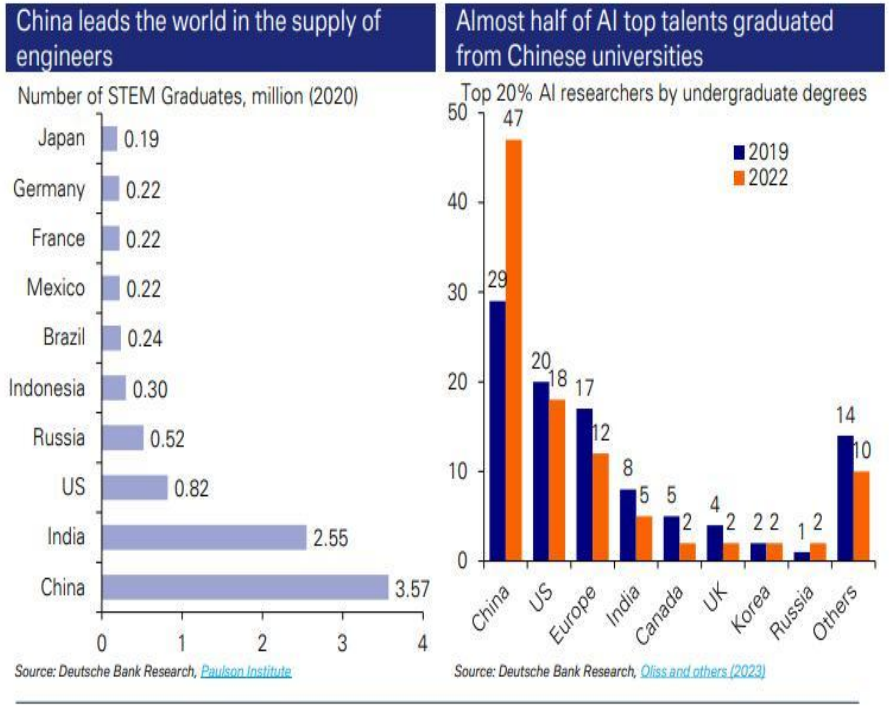
China's innovation paradox

- The chapter : "*Despite the success in some technologies, industrial policy appears to have lowered overall productivity by distorting the allocation of production factors across firms and sectors*".
- Industrial policy has delivered impressive technological gains with little meaningful productivity growth (Parikh, FT, 2025)
  - annual growth of TFP has slowed since the late 2000s.
  - At comparable levels of development, China's TFP growth has also underperformed east Asian "miracle" economies

A manufacturing and innovation boom

- China led in just 3 of 64 critical technologies between 2003 and 2007, but had become the top country in 57 of those technologies between 2019 and 2023 (Australian Strategic Policy Institute).





- **Institutions/Governance**: **Does Innovation (still) require Democracy?**
  - Until recently, broad consensus that innovation at the technological frontier cannot thrive without democratic institutions (Aghion, Antonin, 2023).
  - Kornai (2010): the most revolutionary innovations of the 20th all took place within democracies.

The South Korean Precedent

- Beijing's industrial policy has increased output in strategic sectors — but it has also entailed significant waste and costs.

- **A necessary stage in development?** This was also the case for South Korea, where the early phase of industrial policy led to resource misallocations.
  - South Korea: the positive impact of industrial policies implemented in the 1970s was partly offset by concentration and reallocation of resources toward less productive firms *(Lee, Shin, and Kim, 2021).*

- **Yet industrial policy also enabled the country to become rich**
  - Rodrik, 1995 ; Choi and Levchenko (2021): The IP implemented in the 1970s led to a substantial net gain for the Korean economy, not only during implementation (1970s–1980s) but also over the long term (1982–2009), mainly due to productivity gains from learning-by-doing. See also Lane, 2025.

Should the EU pursue Industrial Policies?

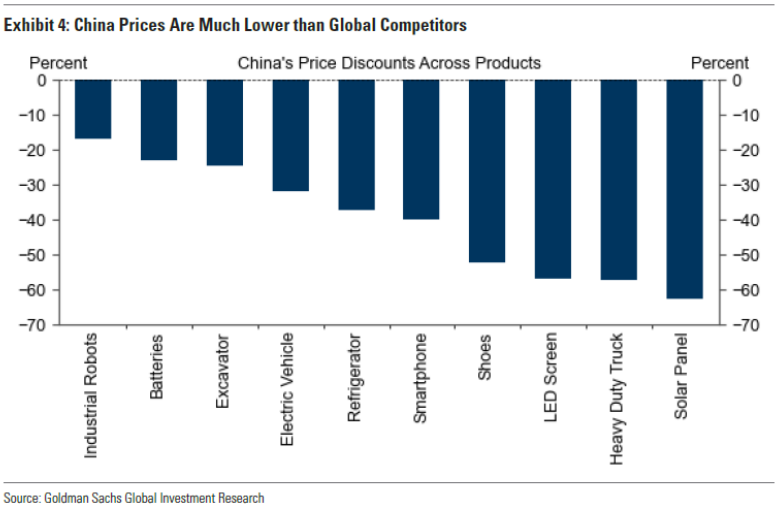
- The chapter highlights the **risks of industrial policy in Europe**:
  - Governments should be mindful of the risks of wasteful spending, especially when public debt is high and fiscal space is limited.
  - There is a risk of fragmentation of the single Market if certain sectors or countries benefit from support while others do not.
  - Structural reforms may yield better outcomes than direct industrial policies (IPs).
  - Market discipline should be maintained through strong domestic and international competition.

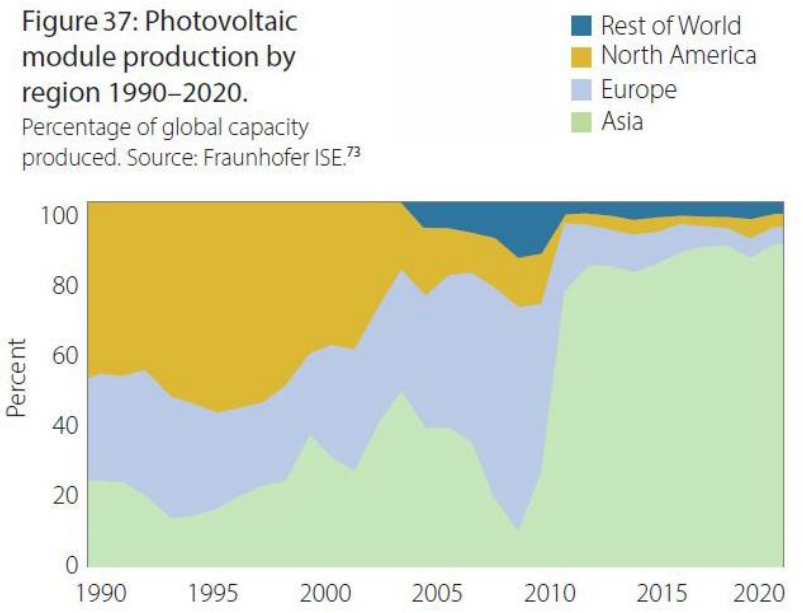
- The chapter suggests a "phased approach": first strengthen structural factors, then address sectoral challenges with targeted interventions.

- Yet, is this **the right response to the industrial and technological challenge posed by China?**
  - The chapter does not fully address the **counterfactual** — the risks of inaction if Europe refrains from adopting industrial policies while its competitors do.

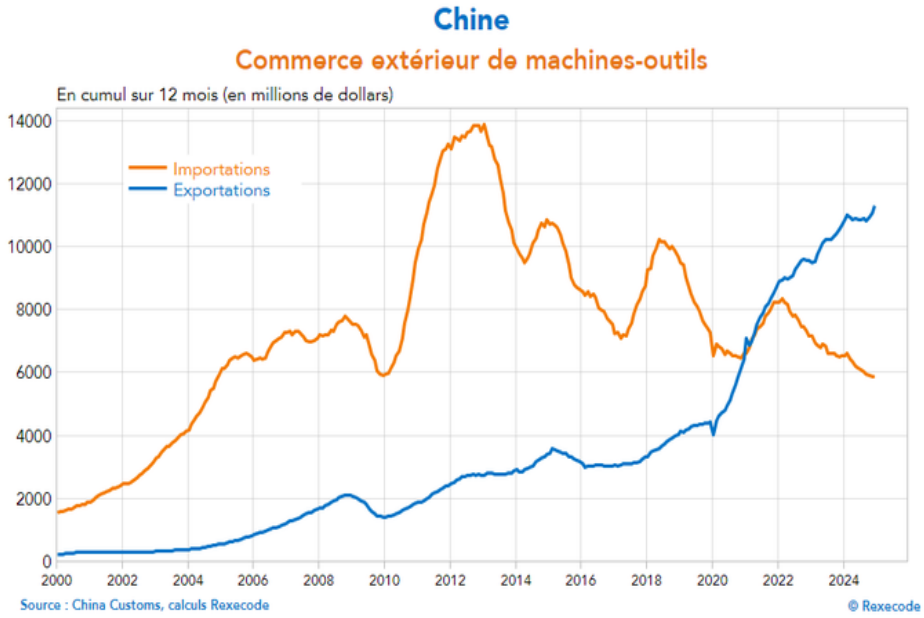
When the Solar Panel precedent threatens to spread Across Europe's Industrial Base

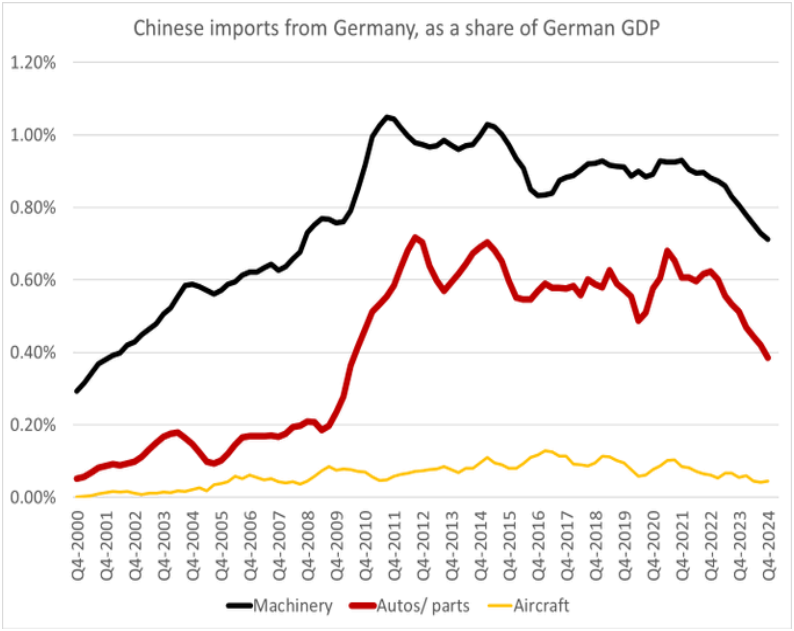
- **How can Europe compete with a Chinese industrial system whose production costs are often 30–40% lower, at equivalent quality?**
- This is an unprecedented situation: historically, such cost gaps were offset by productivity gains or technological advantages.
- Today, there is a real risk that entire segments of European industry could experience the same outcome as fifteen years ago with solar panels.





Europe's Industrial Base Under Threat from Chinese Competition: the machine tool example





What Strategy for Europe?

- An innovation and investment strategy for Europe *(Draghi Report).*

- **But how can Europe respond to the Chinese industrial powerhouse?**
  - The risk is greater in Europe, where the **industrial structure remains relatively static**. *Creative destruction* has largely been an American reality — should we rather speak of *destructive destruction* in Europe?

    « *Europe is stuck in a static industrial structure with few new companies rising up to disrupt existing industries or develop new growth engines. In fact, there is* ***no EU company with a market capitalisation over EUR 100 billion that has been set up from scratch in the last fifty years****, while all six US companies with a valuation above EUR 1 trillion have been created in this period* » (Draghi report)

10 premières entreprises en Europe et aux États-Unis, par capitalisation

Europe				États-Unis			
Pays	Entreprise	Année	Capitalis	Pays	Entreprise	Année	Capitalisa
Danemark	Novo Nordisk	1923	389	États-Unis	Apple	1976	3 419
France	LVMH	1987	350	États-Unis	Nvidia	1993	3 271
Allemagne	SAP	1972	328	États-Unis	Microsoft	1975	3 064
France	Hermès	1837	297	États-Unis	Amazon	1994	2 470
Pays-Bas	ASML	1988	293	États-Unis	Google	1998	2 282
Suisse	Roche	1896	255	États-Unis	Meta	2004	1 817
Irlande	Accenture	1989	242	États-Unis	Tesla	2003	1 128
Royaume-Uni	AstraZeneca	1999	225	États-Unis	Broadcom	1961	1 101
Suisse	Nestlé	1866	220	États-Unis	Berkshire Hathaway	1955	1 014
Royaume-Uni	Linde	1879	219	États-Unis	Walmart	1962	827

Capitalisation en milliards de $US. Données au 11 février 2025.
Tableau: Le Grand Continent